REMARKS

The Office Action dated July 29, 2009 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-5 are currently pending in the application. Claim 6 was previously cancelled. Therefore, claims 1-5 are respectfully submitted for consideration.

Acceptance of Drawings

Applicants respectfully submit that the Summary of the Office Action fails to indicate whether or not the drawings of the present application have been accepted, because no box is checked in Item 10 of the Office Action Summary. Applicants respectfully request that that the Examiner approve the drawings of the present application and indicate the approval of the drawings in the next official correspondence.

Claim Rejections Under 35 U.S.C. § 103

The Office Action rejected claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Forsberg (U.S. Reissue Patent No. RE36,479), in view of Singer (U.S. Reissue Patent No. RE33,124). The Office Action took the position that Forsberg discloses all the elements of the claims with the exception of "the amount of molybdenum disulfide solid lubricating agent as 10% to 40% by mass," "2 to 20% by mass of an attaching agent having both lubricating and dispersing properties," "2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-

accelerating actions; and water," and "the aqueous lubricant for plastic working." The Office Action then cited Singer as allegedly curing some of the deficiencies of Forsberg. The Office Action further alleged that the remaining deficiencies are "result effective [variables]," and that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." (See Office Action at pages 3-5). Applicants respectfully traverse this rejection.

Claim 1, upon which claims 2-5 are dependent, recites an aqueous lubricant for plastic working, which includes 10 to 40% by mass of an inorganic solid lubricating agent, and 2 to 20% by mass of an attaching agent having both lubricating and dispersing properties. The aqueous lubricant further includes 2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-accelerating actions, and water.

As will be discussed below, the combination of Forsberg and Singer fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Forsberg describes a composition comprising water and at least one carboxylic salt dispersed or dissolved in the water. The carboxylic salt is derived from: (a) at least one hydrocarbyl-substituted carboxylic acid or anhydride, or at least one derivative formed by reacting the at least one hydrocarbyl-substituted carboxylic acid or anhydride with a reactant; and (b) at least one amine, alkaline earth metal, or alkali or alkaline earth metal compound. The reactant may be: (1) an ammonia, (2) an alcohol, (3) a primary amine; (4) a secondary amine; (5) a hydroxylamine; or (6) any combination of two or more of

any of (1)-(5) (see Forsberg at col. 2, lines 23 – 53). The alcohols used to make the derivative include alkylene glycols and polyoxyalkylene alcohols (see Forsberg at col. 8, lines 48-51).

Forsberg further describes aqueous compositions characterized by an aqueous phase with the carboxylic salts dispersed or dissolved in the aqueous phase. The aqueous compositions encompass both concentrates and water-based functional fluids. The concentrates and water-based functional fluids can include other conventional additives including surfactants, thickeners, oil-soluble and water-insoluble functional additives (such as anti-wear agents, extreme pressure agents, dispersants, etc)., and supplemental additives such as corrosion-inhibitors, shear stabilizing agents, etc. Thickeners include poly-n-vinyl pyrrolidones, homo- and copolymers as well as water-soluble salts of styrene, maleic anhydride, and isobutylene maleic anhydride copolymers (see Forsberg at col. 27, lines 6-9). Oil-soluble and water-insoluble functional additive include certain solid lubricants such as graphite, molybdenum disulfide, and polytetrafluoroethylene and related solid polymers (see Forsberg at col. 31, lines 25-27).

Singer describes a substantially oil-free aqueous composition of matter including a major amount of water (including up to as much as 99.9 percent by weight of water), a minor amount of at least one substantially water-insoluble functional additive, and a minor amount of at least one substantially water-soluble, liquid organic dispersing agent (see Singer at col. 2, lines 48-52). The functional additive can include a solid lubricant such as graphite, molybdenum disulfide, and polytetrafluoroethylene, and other related

polymers. The dispersing agent is selected from a group which includes alkylene glycols (including alkylene glycols where the alkylene group has 2 to 4 carbon atoms) (see Singer at col. 5, lines 50-53).

Applicants respectfully submit that Forsberg and Singer, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Forsberg and Singer fails to disclose, teach, or suggest, at least, "2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-accelerating actions," as recited in independent claim 1.

As described above, Forsberg describes aqueous compositions which encompass both concentrates and water-based functional fluids. The concentrates and water-based functional fluids can include other conventional additives including surfactants, thickeners, oil-soluble and water-insoluble functional additives (such as anti-wear agents, extreme pressure agents, dispersants, and supplemental additives such as corrosion-inhibitors, and shear stabilizing agents (see Forsberg at col. 24, lines 20-48). Forsberg fails to disclose, or suggest an agent having both wetting characteristics and moisture evaporation-accelerations actions, let alone such an agent that is 2 to 20% by weight.

The Office Action took the position that: (1) Forsberg discloses anti-freeze agents such as ethylene glycol and analogous polyoxyalkylene polyols; (2) ethylene glycol is an alkylene glycol and will therefore have wetting characteristics and moisture evaporation accelerating actions; and (3) if the prior art teaches the identical chemical structure, the

properties applicant claims are necessarily present (see Office Action at page 4). Applicants respectfully submit that the Office Action's position is erroneous. Forsberg discloses an additive with anti-freezing characteristics as opposed to an agent with wetting characteristics and moisture evaporation accelerating actions. However, Forsberg fails to describe a precise amount of the anti-freeze additive. Not only does Forsberg fail to describe a precise amount, but Forsberg fails to describe an amount in functional terms of wetting characteristics and moisture evaporation accelerating actions. Instead, Forsberg merely states that the amount used will depend on the degree of anti-freeze protection desired (see Forsberg at col. 33, lines 65-67), which does not correlate to wetting characteristics and moisture evaporation accelerating actions. Thus, contrary to the Office Action's position, Forsberg fails to characterize the anti-freeze additive as a functional effective amount with respect to the functionality of wetting and moisture evaporation.

Singer fails to cure the deficiencies of Forsberg. As described above, Singer describes a substantially oil-free aqueous composition of matter which includes a minor amount of at least one substantially water-soluble, liquid organic dispersing agent (see Singer at col. 2, lines 48-52). However, Singer fails to disclose or suggest an amount of the dispersing agent that is 2 to 20% by weight.

The Office Action took the position that Singer identifies the amount of the dispersing agent as a functionally effective amount, and that discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the

art (see Office Action at page 5). Applicants respectfully submit that Singer does not identify the amount of the dispersing agent as a functionally effective amount. Instead, Singer includes inconsistent definitions of the amount of the dispersing agent. Specifically, Singer states that "a dispersing amount of the dispersing agent is present in the aqueous compositions of this invention," but fails to define "dispersing amount" (see Singer at col. 6, lines 27-31). In contrast, Singer explicitly states that a functional effective amount of the functional additive is present in the aqueous composition (see Singer at col. 5, lines 13-15). Singer also states that the aqueous compositions of the present invention comprise about 0.01 – 50 percent by weight of at least one dispersing agent (see Singer at col. 11, lines 10-13). However, this is clearly incorrect, as Singer also describes that the aqueous compositions contain about 90 to about 99 percent by weight water; usually contain about 95 to about 99 percent by weight water; and can contain up to as much as 99.9 weight percent water (see Singer at col. 2, lines 48-52). Based on these statements, it would be impossible for the aqueous compositions to also include 50 percent by weight of at least one dispersing agent, if the compositions already include at least 90 percent by weight of water. Thus, Applicants respectfully submit that the amount of a dispersing agent in Singer does not constitute a "result effective variable in a known process," as characterized by the Office Action.

Furthermore, Applicants respectfully submit that the Office Action has failed to establish a prima facie case of obviousness, because one of ordinary skill in the art would

not be motivated to combine the cited references of Forsberg and Singer to arrive at the claimed invention.

As reiterated by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007), the framework for the objective analysis for determining obviousness under 35 U.S.C. § 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries. The factual inquiries are: (a) determining the scope and content of the prior art; (b) ascertaining the differences between the claimed invention and the prior art; and (c) resolving the level of ordinary skill in the pertinent art. (See *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966); see also MPEP § 2141).

The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The court stated that "rejections on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." (See *KSR*, 550 U.S. at 398, 82 UPSQ2d at 1396; see also MPEP § 2141).

The Office Action took the position that it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the ethylene glycol in a functionally effective amount as contemplated by Forsberg and as disclosed by Singer. (See Office Action at page 5). However, the Office Action's position fails to take into consideration that Forsberg explicitly discourages the addition of an additional

component to the composition disclosed in Forsberg. Specifically, Forsberg states that many of the components of the aqueous composition are industrial products which exhibit or confer more than one property. Thus, a single component of the aqueous composition in Forsberg can provide several functions, and thereby, eliminates or reduces the need for an additional component (see Forsberg at col. 34, lines 1-9). Therefore, the Office Action's proposed modification of adding the alkylene glycols of Singer to the aqueous composition of Forsberg contradicts the stated goal of Forsberg of eliminating the need for an additional component. A modification of Forsberg that directly contradicts the stated goal of Forsberg would not have been obvious to one of ordinary skill in the art, at the time the invention was made.

Therefore, for at least the reasons discussed above, the Office Action has failed to establish a prima facie case of obviousness, because one of ordinary skill in the art would not be motivated to combine the cited references of Forsberg and Singer to arrive at the claimed invention.

Thus, the combination of Forsberg and Singer fails to disclose, teach, or suggest, all of the elements of independent claim 1. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Claims 2-5 depend upon independent claim 1. Thus, Applicants respectfully submit that claims 2-5 should be allowed for at least their dependence upon independent claim 1, and for the specific elements recited therein.

The Office Action rejected claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Singer. The Office Action took the position that Singer discloses all the elements of the claims with the exception of "10 to 40% by mass of an inorganic solid lubricating agent," "2 to 20% by mass of an attaching agent having both lubricating and dispersing properties," "2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-accelerating actions." The Office Action also took the position "Singer discloses the molybdenum disulfide may be used in a concentrate in an amount of 0.01-5 % wt, the alkylene glycol in an amount of 0.001-50% wt, and the isobutylene maleic acid copolymer in an amount of 0.1-40% by weight," that "where the claims ranges overlap or lie inside rangers disclosed by the prior art, a prima facie case of obviousness exists," and that "the amounts of alkylene glycol, molybedenum disulfide and isobutylene maleic acid copolymer are result effective variables [and] that discover of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." Finally, the Office Action took that ethylene glycol will have wetting characteristics and moisture evaporation accelerating actions. Applicants respectfully traverse this rejection.

Claim 1, upon which claims 2-5 are dependent, is described above. As will be discussed below, Singer fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Singer is discussed above. Applicants respectfully submit that Singer fails to disclose, teach, or suggest, all of the elements of the present claims. For example, Singer

fails to disclose, teach, or suggest, at least, "2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-accelerating actions," as recited in independent claim 1.

As noted above, Singer describes a substantially oil-free aqueous composition of matter which includes a minor amount of at least one substantially water-soluble, liquid organic dispersing agent (see Singer at col. 2, lines 48-52). However, Singer fails to disclose or suggest an amount of the dispersing agent that is 2 to 20% by weight. As also described above, Applicants respectfully submit that Singer does not identify the amount of the dispersing agent as a functionally effective amount. Thus, Applicants respectfully submit that the amount of a dispersing agent in Singer does not constitute a "result effective variable in a known process," as characterized by the Office Action, and Singer fails to disclose or suggest at least, "2 to 20% by mass of an agent having both wetting characteristics and moisture evaporation-accelerating actions," as recited in independent claim 1.

Therefore, Singer fails to disclose, teach, or suggest, all of the elements of independent claim 1. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Claims 2-5 depend upon independent claim 1. Thus, Applicants respectfully submit that claims 2-5 should be allowed for at least their dependence upon independent claim 1, and for the specific elements recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-5 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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